



-1-

SEQUENCE LISTING

<110> Bennett, Robert P.

<120> Methods and Compositions for the Production, Identification and Purification of Fusion Proteins

<130> 0942.5510003

<140> 10/612,410

<141> 2003-07-03

<150> 60/393,756

<151> 2002-07-08

<150> 60/396,627

<151> 2002-07-19

<150> 60/417,172

<151> 2002-10-10

<160> 34

<170> PatentIn version 3.2

<210> 1

<211> 7618

<212> DNA

<213> Artificial

<220>

<223> pET104-DEST

<400> 1

caaggagatg	gcccccaaca	gtcccccggc	cacggggcct	gccaccatac	ccacgcccga	60
acaagcgctc	atgagcccga	agtggcgagc	ccgatcttcc	ccatcggtga	tgtcgccgat	120
ataggcgcca	gcaaccgcac	ctgtggcgcc	ggtgatgccc	gccacgatgc	gtccggcgta	180
gaggatcgag	atctcgatcc	cgcgaaattha	atacgactca	ctatagggga	attgtgagcg	240
gataacaatt	cccctctaga	aataattttg	tttaacttta	agaaggagat	atacatatgg	300
gcgcggcac	cccggtgacc	gccccgtgg	cggcactat	ctggaaagggt	ctggccagcg	360
aaggccagac	ggtggccgca	ggcgagggtgc	tgctgattct	ggaagccatg	aagatggaaa	420
ccgaaatccg	cggcgccgag	gccgggaccg	tgcgcggtat	cgcggtgaaa	gccggcgacg	480
cggtggcggt	cggcgacacc	ctgatgaccc	tggcgccgctc	tggatccgat	ctgtacgacg	540
atgacgataa	ggaaattatc	acaagttgt	acaaaaaaagc	tgaacgagaa	acgtaaaatg	600
atataaatat	caatatatta	aattagattt	tgcataaaaa	acagactaca	taatactgta	660
aaacacaaca	tatccagtca	ctatggccgc	cgcattaggc	accccaggct	ttacacttta	720
tgcttccggc	tcgtataatg	tgtggatttt	gagttaggat	ccggcgagat	tttcaggagc	780
taaggaagct	aaaatggaga	aaaaaatcac	tggatatacc	accgttgata	tatcccaatg	840

gcatcgtaaa gaacattttggaggcattca gtcagttgct caatgtacct ataaccagac 900
cgttcagctg gatattacgg ccttttaaa gaccgtaaag aaaaataagc acaagttta 960
tccggcctt attcacattc ttgcccgcct gatgaatgct catccggaaat tccgtatggc 1020
aatgaaagac ggtgagctgg tgatatggaa tagtgttcac ccttggtaaa ccgtttcca 1080
tgagcaaact gaaacgtttt catcgctctg gagtgaatac cacgacgatt tccggcagtt 1140
tctacacata tattcgcaag atgtggcgtg ttacggtgaa aacctggcctt atttccctaa 1200
agggtttatt gagaatatgt ttttcgtctc agccaatccc tgggtgagtt tcaccagtt 1260
tgatttaaac gtggccaata tggacaactt ctgcggcccc gtttccacca tgggcaaaata 1320
ttatacgcaa ggcgacaagg tgctgatgcc gctggcgatt caggttcatc atgcccgtctg 1380
tgatggcttc catgtcggca gaatgcttaa tgaattacaa cagtaactgcg atgagtggca 1440
gggcggggcg taaacgcgtg gatccggctt actaaaagcc agataacagt atgcgttatt 1500
gcgcgcaccc gtgctagcgt atacccgaag tatgtcaaaa agaggtgtgc tatgaagcag 1560
cgtattacag tgacagttga cagcgacagc tatcagttgc tcaaggcata tatgtatgtca 1620
atatctccgg tctggtaagc acaaccatgc agaatgaagc ccgtcgtctg cgtgccgaac 1680
gctggaaagc ggaaaatcag gaagggatgg ctgaggtcgc ccggtttatt gaaatgaacg 1740
gctctttgc tgacgagaac agggactggt gaaatgcagt ttaaggtttta cacctataaa 1800
agagagagcc gttatcgct gtttggatgt gtacagagtg atattattga cacgccccgg 1860
cgacggatgg tgatccccct ggccagtgcg cgtctgctgt cagataaaagt ctcccgtaa 1920
ctttacccgg tggtgcatat cggggatgaa agctggcgca tgatgaccac cgatatggcc 1980
agtgtgccgg tctccgttat cggggaaagaa gtggctgatc tcagccaccg cgaaaatgac 2040
atcaaaaacg ccattaacct gatgttctgg ggaatataaa tgtcaggctc cgttatacac 2100
agccagtctg caggtcgacc atagtgactg gatatgttgt gtttacagt attatgttagt 2160
ctgtttttta tgcaaaatct aatttaatattt attgatattt atatcatttt acgtttctcg 2220
ttcagcttcc ttgtacaaag tggtgataat taattaagat agctcagatc cggctgctaa 2280
caaagcccgaa aaggaagctg agttggctgc tgccaccgct gagcaataac tagcataacc 2340
ccttggggcc tctaaacggg tcttgagggg tttttgctg aaaggaggaa ctatatccgg 2400
atatcccgca agaggccccgg cagtaccggc ataaccaagc ctatgcctac agcatccagg 2460
gtgacgggtgc cgaggatgac gatgagcgca ttgttagatt tcatacacgg tgcctgactg 2520
cgtagcaat ttaactgtga taaactaccg cattaaagct agcttatcga tgataagctg 2580
tcaaaatcga gaattaattc ttgaagacga aagggccctcg tgataacgcctt atttttatag 2640
gttaatgtca tgataataat ggtttcttag acgtcagggtg gcacttttcg gggaaatgtg 2700

cgcgaaaccc ctatttgttt attttctaa atacattcaa atatgtatcc gctcatgaga	2760
caataaccct gataaatgct tcaataatat tgaaaaagga agagtagatgag tattcaacat	2820
ttccgtgtcg cccttattcc ctttttgcg gcattttgcc ttccctgttt tgctcaccca	2880
gaaacgctgg tgaaagtaaa agatgctgaa gatcagttgg gtgcacgagt gggttacatc	2940
gaactggatc tcaacagcgg taagatcctt gagagtttc gccccgaaga acgtttcca	3000
atgatgagca cttttaaagt tctgctatgt ggcgcggat tatcccggt tgacgcccgg	3060
caagagcaac tcggtcgccc catacaactat tctcagaatg acttgggtga gtactcacca	3120
gtcacagaaa agcatcttac ggtatggcatg acagtaagag aattatgcag tgctgccata	3180
accatgagtg ataacactgc ggccaactta cttctgacaa cgatcggagg accgaaggag	3240
ctaaccgctt tttgcacaa catggggat catgtaactc gccttgatcg ttgggaaccg	3300
gagctgaatg aagccatacc aaacgacgag cgtgacacca cgatgcctgc agcaatggca	3360
acaacgttgc gcaaactatt aactggcgaa ctacttactc tagcttcccg gcaacaatta	3420
atagactgga tggaggcgg aaaaatggca ggaccacttc tgcgctcggc cttccggct	3480
ggctgggtta ttgctgataa atctggagcc ggtgagcgtg ggtctcgccg tattcattgca	3540
gcactggggc cagatggtaa gcccctccgt atcgttagtta tctacacgac ggggagtcag	3600
gcaactatgg atgaacgaaa tagacagatc gctgagatag gtgcctcaact gattaagcat	3660
tggtaactgt cagaccaagt ttactcatat atactttaga ttgatttaaa acttcatttt	3720
taatttaaaa ggatcttaggt gaagatcctt tttgataatc tcatgaccaa aatcccttaa	3780
cgtgagttt cgttccactg agcgtcagac cccgtagaaa agatcaaagg atcttcttga	3840
gatcctttt ttctgcgcgt aatctgctgc ttgcaaaacaa aaaaaccacc gctaccagcg	3900
gtggtttgg tgcggatca agagctacca actcttttc cgaaggtaac tggcttcagc	3960
agagcgcaga taccaaatac tgccttcta gtgtagccgt agttaggcca ccacttcaag	4020
aactctgtag caccgcctac atacctcgct ctgctaattcc tggattaccgt ggctgctgcc	4080
agtggcgata agtcgtgtct taccgggttg gactcaagac gatagttacc ggataaggcg	4140
cagcggtcgg gctgaacggg gggttcgtgc acacagccca gcttggagcg aacgacctac	4200
accgaactga gatacctaca gcgtgagcta tgagaaagcg ccacgcttcc cgaagggaga	4260
aaggcggaca ggtatccgg aagcggcagg gtcggacacag gagagcgcac gagggagctt	4320
ccagggggaa acgcctggta tctttatagt cctgtcgggt ttcgcccaccc ctgacttgag	4380
cgtcgatttt tgtgatgctc gtcaggggg cggagccat gaaaaaacgc cagcaacgcg	4440
gccttttac ggccctggc cttttgctgg cttttgctc acatgttctt tccctgcgtt	4500
tccctgatt ctgtggataa ccgtattacc gccttgagt gagctgatac cgctcgccgc	4560

agccgaaacga ccgagcgcag cgagtcagtg agcgaggaag cggaaagagcg cctgatgcgg 4620
tattttctcc ttacgcatct gtgcggatt tcacaccgca tataatggtgc actctcagta 4680
caatctgctc tgatgccgca tagttaagcc agtatacact ccgctatcgc tacgtgactg 4740
ggtcatggct gcgcggccgac acccgccaaac acccgctgac gcgcggctgac gggcttgc 4800
gctccggca tccgcttaca gacaagctgt gaccgtctcc gggagctgca tgtgtcagag 4860
gttttacccg tcatcaccga aacgcgcgag gcagctgcgg taaagctcat cagcgtggc 4920
gtgaagcgat tcacagatgt ctgcctgttc atccgcgtcc agctcggtga gtttctccag 4980
aagcgtaat gtctggcttc tgataaaagcg gcgcatttta agggcggttt tttcctgttt 5040
ggtcactgat gcctccgtgt aagggggatt tctgttcatg gggtaatga taccgtatgaa 5100
acgagagagg atgctcacga tacgggttac tgatgtatgaa catgcgggt tactgaaacg 5160
ttgtgagggt aaacaactgg cggtatggat gcggcgggac cagagaaaaa tcactcaggg 5220
tcaatgccag cgcttcgtta atacagatgt aggtgttcca cagggttagcc agcagcatcc 5280
tgcgatgcag atccggaaaca taatggtgca gggcgctgac ttccgcgttt ccagacttta 5340
cgaaacacgg aaaccgaaga ccattcatgt tggtgctcag gtcgcagacg tttgcagca 5400
gcagtcgctt cacgttcgct cgctatcgg tgattcattc tgctaaccag taaggcaacc 5460
ccgcccggcct agccgggtcc tcaacgacag gaggcacatc atgcgcaccc gtggccagga 5520
cccaacacgtg cccgagatgc gccgcgtgcg gctgctggag atggcgacg cgtggatat 5580
gttctgcca ggggtgggtt gcgcatttac agttctccgc aagaattgtat tggctccaat 5640
tcttgagtg gtgaatccgt tagcgaggtg ccgcggctt ccattcaggt cgaggtggcc 5700
cggtccatg caccgcgacg caacgcgggg aggcagacaa ggtataggc ggcgcctaca 5760
atccatgcca acccggttcca tgtgctcgcc gaggcgcat aaatcgccgt gacgatcagc 5820
ggtccagtga tcgaagttag gctggtaaga gccgcgagcg atccttgaag ctgtccctga 5880
tggtcgtcat ctacctgcct ggacagcatg gcctgcaacg cgggcattccc gatgcggccg 5940
gaagcgagaa gaatcataat gggaaaggcc atccagcctc gcgtcgacaa cgccagcaag 6000
acgttagccca ggcgcgtcgcc cgccatgccc gcgataatgg cctgcttctc gccgaaacgt 6060
ttgggtggccg gaccagtgcgac gaaggcttga gcgagggcgt gcaagattcc gaataccgca 6120
agcgacaggc cgatcatcg tgcgcgtccag cgaaagcggt cctcgccgaa aatgacccag 6180
agcgctgcgg gcacctgtcc tacgagttgc atgataaaga agacagtcgcat aagtgcggcg 6240
acgatagtca tgccccgcgc ccaccggaaag gagctgactg ggttgaaggc tctcaagggc 6300
atcggtcgag atcccggtgc ctaatgagtg agctaactta cattaattgc gttgcgtca 6360
ctqccqctt tccagtcggg aaaccgtgcg tgcgcgtgc attaatgaat cgccaaacgc 6420

gcggggagag gcgggttgcg tattgggcgc cagggtggtt tttctttca ccagtgagac 6480
gggcaacagc tgattgcct tcaccgcctg gccctgagag agttgcagca agcggtccac 6540
gctggttgc cccagcaggc gaaaatcctg tttgatggtg gtaacggcg ggatataaca 6600
tgagctgtct tcggtatcgt cgtatcccac taccgagata tccgcaccaa cgccgagccc 6660
ggactcggta atggcgcgca ttgcgcccag cgccatctga tcgttggcaa ccagcatcgc 6720
agtgggaacg atgcctcat tcagcatttgcatggttgt tgaaaaccgg acatggcact 6780
ccagtcgcct tcccggtccg ctatcggtc aatttgcatttgcgatgatgatattatgcca 6840
gccagccaga cgccagacgcg ccgagacaga acttaatggg cccgctaaaca gccgcgatgg 6900
ctggtgaccc aatgcgacca gatgctccac gcccagtcgc gtaccgtctt catggagaa 6960
aataatactg ttgatgggtg tctggtcaga gacatcaaga aataacgccc gaacattagt 7020
gcaggcagct tccacagcaa tggcatcctg gtcatccagc ggatagttaa tgatcagccc 7080
actgacgcgt tgccgcgagaa gattgtgcac cgccgcttta caggcttcga cgccgcttcg 7140
ttctaccatc gacaccacca cgctggcacc cagttgatcg ggcgcgatgatgatgg 7200
gacaatttgc gacggcgcgt gcagggccag actggaggtg gcaacgcca tcagcaacga 7260
ctgtttgcccgccagttgtt gtgccacgcg gttggaaatg taattcagct ccgcgcgc 7320
cgcttcact tttccgcg tttcgcaga aacgtggctg gcctggttca ccacgcggga 7380
aacggtctga taagagacac cggcataactc tgcgacatcg tataacgtta ctggtttcac 7440
attcaccacc ctgaattgac tctcttcgg ggcgtatcat ggcataaccgc gaaagggttt 7500
gcgcatttcg atgggtgcgcg ggtatctcgac gctctccctt atgcgactcc tgcattagga 7560
agcagcccaag tagtaggttg aggccgttga gcaccgcgcg cgcacggaaat ggtgcatt 7618

<210> 2
<211> 5934
<212> DNA
<213> Artificial

<220>
<223> pET104/D-TOPO

<400> 2
caaggagatg gcgcacaaca gtccccccgc cacggggcct gccaccatac ccacgcgc 60
acaagcgctc atgagccgaa agtggcgagc cggatcttcc ccatcggtga tgtcgccgat 120
ataggcgcca gcaaccgcac ctgtggcgcc ggtgatgccc gccacgatgc gtccggcgta 180
gaggatcgag atctcgatcc cgcgaaatatacgactca ctatagggaa attgtgagcg 240
gataacaatt cccctctaga aataatttttgc tttacttta agaaggagat atacatatgg 300
gcgcggcgcac cccgggtgacc gccccgcgtgg cgggcactat ctggaaagggtg ctggccagcg 360

aaggccagac ggtggccgca ggcgagggtgc tgctgattct ggaagccatg aagatggaaa	420
ccgaaatccg cgccgcgcag gccgggaccg tgcgcggtat cgcggtgaaa gccggcgacg	480
cggtggcggt cggcgacacc ctgatgaccc tggcgggctc tggatccgat ctgtacgacg	540
atgacgataa gggaaattgat cccttcacca agggcgagct cagatccggc tgctaacaaa	600
gcccggaaagg aagctgagtt ggctgctgcc accgctgagc aataactagc ataaccctt	660
ggggcctcta aacgggtctt gaggggtttt ttgctgaaag gaggaactat atccggat	720
cccgcaagag gcccggcagt accggcataa ccaaggctat gcctacagca tccagggtga	780
cggtgccgag gatgacgatg agcgcattgt tagattcat acacggtgcc tgactgcgtt	840
agcaatttaa ctgtgataaa ctaccgcatt aaagcttagt tatcgatgat aagctgtcaa	900
acatgagaat taattcttga agacgaaagg gcctcgtgat acgcctattt ttataggtta	960
atgtcatgat aataatggtt tcttagacgt caggtggcac ttttcgggaa aatgtgcgcg	1020
gaaccctat ttgtttattt ttctaaatac attcaaataat gatatcgctc atgagacaat	1080
aaccctgata aatgctcaa taatattgaa aaaggaagag tatgagtatt caacattcc	1140
gtgtcgccct tattcccttt tttgcggcat tttgccttcc tgttttgct cacccagaaa	1200
cgctggtcaa agtaaaagat gctgaagatc agttgggtgc acgagtggt tacatcgAAC	1260
tggatctcaa cagcggtaaatccttgaga gtttcgccc cgaagaacgt tttccaatgaa	1320
tgagcacttt taaagttctg ctatgtggcg cggattttatc ccgtgttgac gcccggcaag	1380
agcaactcggtcgccata cactattctc agaatgactt ggttgagttac tcaccagtca	1440
cagaaaagca tcttacggat ggcgtacacg taagagaatt atgcagtgtc gccataacca	1500
tgagtgataa cactgcggcc aacttacttc tgacaacgtat cggaggaccg aaggagctaa	1560
ccgctttttt gcacaacatg ggggatcatg taactcgct tgatcggtgg gaaccggagc	1620
tgaatgaagc cataccaaac gacgagcgtg acaccacgtat gcctgcagca atggcaacaa	1680
cgttgcgcaa actattaact ggcgaactac ttactctagc ttcccgccaa caattaatag	1740
actggatgga ggcggataaa gttgcaggac cacttctgct ctcggccctt ccggctggct	1800
ggtttattgc tgataaatct ggagccggtg agcgtgggtc tcgcggatc attgcagcac	1860
tggggccaga tggtaagccc tcccgatcg tagttatcta cacgacgggg agtcaggcaa	1920
ctatggatga acgaaataga cagatcgctg agataggtgc ctcactgatt aagcattgg	1980
aactgtcaga ccaagttac tcataatatac ttttagattga tttaaaactt catttttaat	2040
ttaaaaggat ctaggtgaag atccttttg ataatctcat gaccaaaatc ccttaacgtc	2100
agttttcggtt ccactgagcg tcagaccccg tagaaaagat caaaggatct tcttgagatc	2160
cttttttct gcgcgtatc tgctgcttgc aaacaaaaaa accaccgcta ccagcgggtgg	2220

tttgttgcc	ggatcaagag	ctaccaactc	ttttccgaa	ggtaactggc	ttcagcagag	2280
cgcagatacc	aaatactgtc	cttctagtgt	agccgtagtt	aggccaccac	ttcaagaact	2340
ctgttagcacc	gcctacatac	ctcgctctgc	taatcctgtt	accagtggt	gctgccagtg	2400
gcgataagtc	gtgtcttacc	gggttggact	caagacgata	gttaccggat	aaggcgcagc	2460
ggtcgggctg	aacggggggt	tcgtgcacac	agcccagctt	ggagcgaacg	acctacacccg	2520
aactgagata	cctacagcgt	gagctatgag	aaagcgccac	gcttccgaa	gggagaaagg	2580
cgacaggta	tccggtaagc	ggcagggctcg	gaacaggaga	gcbcacgagg	gagcttccag	2640
ggggaaacgc	ctggtatctt	tatagtcctg	tcgggttctg	ccacctctga	cttgagcgtc	2700
gattttgtg	atgctcgtca	ggggggcgga	gcctatggaa	aaacgcccgc	aacgcggcct	2760
tttacgggt	cctggccttt	tgctggcctt	ttgctcacat	gttcttcct	gcgttatccc	2820
ctgattctgt	ggataaccgt	attaccgcct	ttgagtgagc	tgataaccgt	cgcgcagcc	2880
gaacgaccga	gcgcagcgag	tcagtgagcg	aggaagcgga	agagcgccctg	atgcggatt	2940
ttctccttac	gcatctgtgc	ggtatttcac	accgcataata	tggtgcactc	tcagtacaat	3000
ctgctctgat	gccgcatagt	taagccagta	tacactccgc	tatcgctacg	tgactgggtc	3060
atggctgcgc	cccgacacccc	gccaacacccc	gctgacgcgc	cctgacgggc	ttgtctgctc	3120
ccggcatccg	cttacagaca	agctgtgacc	gtctccggga	gctgcatagtg	tcagaggttt	3180
tcaccgtcat	caccgaaacg	cgcgaggcag	ctgcggtaaa	gctcatcagc	gtggcgtgt	3240
agcgattcac	agatgtctgc	ctgttcatcc	gcgtccagct	cgttgagttt	ctccagaagc	3300
gttaatgtct	ggcttctgat	aaagcgggcc	atgttaaggg	cggtttttc	ctgtttggtc	3360
actgatgcct	ccgtgtaagg	gggatttctg	ttcatggggg	taatgatacc	gatgaaacga	3420
gagaggatgc	tcacgatacg	ggttactgat	gatgaacatg	cccggttact	ggaacgttgt	3480
gagggtaaac	aactggcggt	atggatgcgg	cgggaccaga	aaaaaatcac	tcagggtaaa	3540
tgccagcgct	tcgttaatac	agatgttagt	gttccacagg	gtagccagca	gcacccctgcg	3600
atgcagatcc	ggaacataat	ggtgcagggc	gctgacttcc	gcgtttccag	actttacgaa	3660
acacggaaac	cgaagaccat	tcatgttgtt	gctcaggtcg	cagacgtttt	gcagcagcag	3720
tcgcttcacg	ttcgctcgcg	tatcggtgat	tcattctgct	aaccagtaag	gcaaccccg	3780
cagcctagcc	gggtcctcaa	cgacaggagc	acgatcatgc	gcacccgtgg	ccaggaccca	3840
acgctgccc	agatgcgcgc	cgtgcggctg	ctggagatgg	cggacgcgt	ggatatgttc	3900
tgccaagggt	tggtttgcgc	attcacagtt	ctccgcaaga	attgattggc	tccaattctt	3960
ggagtgtga	atccgtagc	gaggtgcgc	cggcttccat	tcaggtcgag	gtggcccg	4020
tccatgcacc	gcgacgcaac	gcggggagggc	agacaaggta	tagggcggcg	cctacaatcc	4080

atgccaaccc	gttccatgtg	ctcgccgagg	cggcataaaat	cgccgtgacg	atcagcggtc	4140							
cagtgatcg	agttaggctg	gtaagagccg	cgagcgatcc	ttgaagctgt	ccctgatgg	4200							
cgtcatctac	ctgcctggac	agcatggcct	gcaacgcggg	catcccgt	ccgcccggaa	4260							
cgagaagaat	cataatgggg	aaggccatcc	agcctcggt	cgcgaacg	cc agcaagacgt	4320							
agcccagcgc	gtcggccg	atgcggcga	taatggcctg	cttctcgccg	aaacgttgg	4380							
tggcggacc	agtgacgaag	gcttgagcga	ggcgtgcaa	gattccgaat	accgcaagcg	4440							
acaggccat	catcg	ctccagcgaa	agcggcctc	gccgaaaatg	acccagagcg	4500							
ctgcccgcac	ctgtcctacg	agttgc	taaagaagac	agt	cataagt	gcggc	4560						
tagtcatgcc	ccgcgc	ccac	cggaaggagc	tgactgg	ttt	gaaggc	tc a	4620					
gtcgagatcc	cgg	tgctaa	tgagt	gagct	aacttacatt	aattgc	gtt	cg	4680				
ccgc	tttcca	gtcgg	aaac	ctgtcg	cc	agtc	catta	atga	atcg	caac	gcgc	4740	
ggagaggcgg	tttgcgtatt	gggcgc	ccagg	gtgg	ttttc	ttt	cacc	tg	agac	gggc	4800		
aacagctgat	tgcc	tttac	cgc	ctgg	ccc	tgag	agag	tt	gc	agca	gcgt	4860	
gtttgc	cccc	ca	gcagg	cgaaa	atc	ctgtt	ttt	g	at	ggc	ggat	4920	
ctgtcttcgg	tatcg	tc	ccactacc	gagat	atcc	atcc	atcc	atcc	at	cc	ac	4980	
tcggtaatgg	cgc	gcatt	gc	ccc	agcg	cc	atctg	atcg	tgg	caacc	agcat	5040	
ggaacgatgc	cct	catt	ca	catt	gtt	gtt	gaa	aacc	ggac	at	ggc	actcc	5100
tcgc	cttccc	gtt	ccg	ctat	cgg	ctg	aaat	tgatt	gcg	tg	agat	at	5160
gccagacgca	gac	gcgc	ccg	ga	caga	actt	aat	ggg	ccc	cta	acag	gc	5220
tgacccaatg	cgac	ca	ccag	at	gtt	gtt	gt	ttt	gtt	gtt	gtt	gtt	5280
atactgttga	tgg	gtt	gtct	gt	cag	agaca	tca	aga	aaata	acg	ccg	gaa	5340
gcagcttcca	cag	ca	at	gg	tc	tcc	agc	gg	at	gtt	at	gt	5400
acgcgttgcg	cgag	aa	agg	at	gt	gcac	gc	cc	gtt	ac	gc	ttt	5460
accatcgaca	ccac	cac	cg	c	gt	ccac	cc	cc	at	cc	cc	act	5520
atttgcacg	gcgc	gt	cg	ac	gt	ccag	act	gg	ttt	gg	cc	at	5580
ttgcccgc	gtt	gtt	gt	gc	cac	gc	gg	ttt	gt	gt	cc	cc	5640
tccactttt	ccc	cg	gtt	ttt	cgc	agaa	acg	ttt	gg	ctt	acc	ac	5700
gtctgataag	agac	acc	ccgg	c	at	act	ct	gc	ac	at	cc	cc	5760
accaccctga	att	gact	ctc	tt	cc	gg	cc	tat	cat	g	cc	gg	5820
cat	tcgat	gg	tgt	ccgg	at	tcg	ac	gct	ttat	gc	act	cc	5880
cccc	ag	tt	gagg	gc	cg	at	gg	ac	gg	ttt	gg	tc	5934

<210> 3
<211> 6959
<212> DNA
<213> Artificial

<220>
<223> pcDNA/Biotag-DEST

<400> 3
gacggatcg gagatctccc gatcccstat ggtcgactct cagtacaatc tgctctgatg 60
ccgcatagtt aagccagtat ctgctccctg ctttgtgttt ggaggtcgct gagtagtgcg 120
cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatt aagaatctgc 180
ttagggttag gcgtttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240
gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300
tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaaacgacc 360
cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420
attgacgtca atgggtggac tatttacggt aaactgccc cttggcagta catcaagtgt 480
atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540
atgcccagta catgaccta tgggacttgc ctacttggca gtacatctac gtattagtca 600
tcgctattac catggtgatg cggtttggc agtacatcaa tggcgtgga tagcggtttg 660
actcacgggg atttccaagt ctccacccca ttgacgtcaa tggagtttgc ttttggcacc 720
aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatggcgc 780
gtaggcgtgt acgggtggag gtctatataa gcagagctct ctggctaact agagaaccca 840
ctgcttactg gcttatcgaa attaatacga ctcaactatag ggagacccaa gctggctagc 900
gtttaaactt aagcttacca tggcgcggg caccgggtg accgccccgc tggcgggcac 960
tatctggaaag gtgctggcca gcbaaggcca gacgggtggc gcaggcgagg tgctgctgat 1020
tctggaaagcc atgaagatgg aaaccgaaat ccgcgcggc caggccggga ccgtgcgcgg 1080
tatcgcggtg aaagccggcg acgcgggtggc ggtcggcgac accctgatga ccctggcggg 1140
ctctggatcc gatctgtacg acgatgacga taaggtacat caaacaagtt tgtacaaaaaa 1200
agctgaacga gaaacgtaaa atgatataaa tatcaatata ttaaattaga ttttgcataa 1260
aaaacagact acataatact gtaaaacaca acatatccag tcactatggc ggccgcatta 1320
ggcaccccaag gctttacact ttatgctcc ggctcgata atgtgtggat tttgagttag 1380
gatccggcga gatttcagg agctaaggaa gctaaaatgg agaaaaaaat cactggat 1440
accaccgttg atatatccca atggcatcgta aaagaacatt ttgaggcatt tcagtcgtt 1500
gctcaatgta cctataacca gaccgttcag ctggatatta cggcctttt aaagaccgta 1560
aagaaaaata agcacaagtt ttatccggcc tttattcaca ttcttgcccg cctgatgaat 1620

gctcatccgg aattccgtat ggcaatgaaa gacggtgagc tggtgatatg ggatagtgtt	1680
cacccttgtt acaccgtttt ccatgagcaa actgaaacgt tttcatcgct ctggagtgaa	1740
taccacgacg atttccggca gtttctacac atatattcgc aagatgtggc gtgttacggt	1800
gaaaacctgg cctatttccc taaagggttt attgagaata tgttttcgt ctcagccaaat	1860
ccctgggtga gtttcaccag ttttgcattt aacgtggcca atatggacaa cttcttcgccc	1920
cccgtttca ccatggcaa atattatacg caaggcgaca aggtgctgat gcccgtggcg	1980
attcaggttc atcatgccgt ctgtgatggc ttccatgtcg gcagaatgct taatgaatta	2040
caacagtact gcgatgagtgcagggcggg gcgtaaacgc gtggatccgg cttactaaaa	2100
gccagataac agtatgcgta tttgcgcgt cgcaaccgg tgtataccgg aagtatgtca	2160
aaaagaggtg tgctatgaag cagcgtattt cagtgacagt tgacagcgac agctatcagt	2220
tgctcaaggc atatatgatg tcaatatctc cggctggta agcacaacca tgcagaatga	2280
agcccgtcgt ctgcgtgccc aacgctggaa agcggaaaat caggaaggga tggctgaggt	2340
cgtttttttt attgaaatga acggctctt tgctgacgag aacaggact ggtgaaatgc	2400
agtttaaggt ttacacctat aaaagagaga gccgttatcg tctgtttgtg gatgtacaga	2460
gtgatattat tgacacgccc gggcgacgga tggtgatccc cctggccagt gcacgtctgc	2520
tgtcagataa agtctccgt gaactttacc cggtggtgca tattcggggat gaaagctggc	2580
gcatgatgac caccgatatg gccagtgtgc cggctccgt tattcggggaa gaagtggctg	2640
atctcagcca ccgcggaaaat gacatcaaaa acgccattaa cctgatgttc tggggatata	2700
aaatgtcagg ctccgttata cacagccagt ctgcagggtcg accatagtga ctggatata	2760
tgtgttttac agtattatgt agtctgtttt ttatgcaaaa tctaatttata tatttgata	2820
tttatatcat ttacgtttc tcggttca gtttgcattt aagtgggtat aattaattaa	2880
gatctagagg gcccgtttaa acccgctgat cggctcgac tgtgccttct agttgccagc	2940
catctgttgt ttgcccctcc cccgtgcctt ccttgaccct ggaagggtgcc actcccactg	3000
tccttccta ataaaatgag gaaattgcat cgcattgtct gagtaggtgt cattctattc	3060
tgggggggtgg ggtggggcag gacagcaagg gggaggattg ggaagacaat agcaggcatg	3120
ctggggatgc ggtgggtctt atggcttctg aggcggaaag aaccagctgg ggctctaggg	3180
ggtatccccca cgcgcctgt agcggcgcat taagcgccgc ggggtgtggg gttacgcgca	3240
gcgtgaccgc tacacttgcc agcgccttag cgccgcgtcc ttgcgtttc ttcccttcct	3300
ttctcgccac gttcgccggc ttccccgtc aagctctaaa tcggggcatc cctttaggg	3360
tccgatattag tgctttacgg cacctcgacc ccaaaaaact tgattagggt gatggttcac	3420
gtagtgccgc atcgccctga tagacggttt ttgcctt gacgttgag tccacgttct	3480

ttaatagtgg	actcttgg	ttc	caaactggaa	caacactcaa	ccctatctcg	gtctattctt	3540	
ttgatttata	agggattttg	gggatttcgg	cctattggtt	aaaaaatgag	ctgatttaac		3600	
aaaaatttaa	cgcgaattaa	ttctgtggaa	tgtgtgtcag	ttagggtgtg	gaaagtcccc		3660	
aggctcccc	ggcaggcaga	agtatgcaa	gcatgcac	caattagtca	gcaaccagg		3720	
gtggaaagtc	cccaggctcc	ccagcaggca	gaagtatgca	aagcatgcat	ctcaatttagt		3780	
cagcaaccat	agtcccgc	ctaactccgc	ccatcccgc	cctaactccg	cccagttccg		3840	
cccattctcc	gccccatggc	tgactaattt	tttttattta	tgcagaggcc	gaggccgcct		3900	
ctgcctctga	gctattccag	aagtagtgag	gaggctttt	tggaggccta	ggcttttgca		3960	
aaaagctccc	gggagcttgt	atatccattt	tcggatctga	tcagcacgtg	ttgacaattt		4020	
atcatcg	ggca	tagtatatcg	gcata	gtata	gtgaggaact	aaaccatggc	4080	
caagc	tttgc	tctcaagaag	aatccac	cattgaaaga	gcaacggcta	caatcaacag	4140	
catccccatc	tctgaagact	acagcgtcgc	cagcgcag	ctctctagcg	acggccgc	at	4200	
cttcactgg	gtcaatgtat	atcatttac	tggggac	tgtgcaga	tcgtgg	gtct	4260	
gggcactg	ctgctgcgg	cagctggaa	cctgactt	gtc	tcggaa	atg	4320	
gaacagg	ggc	atcttgg	cc	tgcgg	gtg	cttctcg	atctgc	4380
tgggatcaaa	gccat	agtgt	ga	aggac	ac	ggat	cgt	4440
attgctgccc	tctgg	ttatg	tgtgg	gggg	ctaa	gactt	cg	4500
gacacgt	gct	acgtt	ttc	cc	tctt	ctaa	gggtt	4560
tcg	tttccg	ggac	ccggc	tgg	atct	cat	gt	4620
tcgcccaccc	caactt	gtt	att	cc	ata	atgtt	aa	4680
caaattt	ca	ttt	ttc	tc	aa	atgtt	act	4740
tcaatgtatc	ttat	cat	gtc	tgt	tac	ccgt	tt	4800
gg	ttt	cct	gt	aaat	ttt	gt	at	4860
ccg	aaag	gt	aaa	gc	tgg	gt	ttt	4920
cgttgc	gct	act	ccc	gct	ttc	cc	gt	4980
tcggccaac	cg	cg	ggg	gaga	gt	at	gg	5040
ctgactcg	gc	gct	cg	gt	cc	cg	ct	5100
taatacgg	tt	atcc	acaga	tc	aa	agg	cg	5160
agcaaaagg	cag	aaacc	gt	aaaagg	cc	gtt	ttccat	5220
cccctgac	ga	cat	caca	aa	atc	gac	agg	5280
tataaagat	cc	agg	cg	ttt	cc	ct	tg	5340

tgccgcttac	cggatacctg	tccgccttc	tcccttcggg	aagcgtggcg	ctttctcaat	5400
gctcacgctg	taggtatctc	agttcggtgt	aggtcggtcg	ctccaaagctg	ggctgtgtgc	5460
acgaacccccc	cgttcagccc	gaccgctgcg	ccttatccgg	taactatcgt	cttgagtcca	5520
acccggtaag	acacgactta	tcgcccactgg	cagcagccac	tggtaacagg	attagcagag	5580
cgaggtatgt	aggcggtgct	acagagttct	tgaagtggtg	gcctaactac	ggctacacta	5640
gaaggacagt	atttggtatac	tgcgctctgc	tgaagccagt	taccttcgga	aaaagagttg	5700
gtagcttttg	atccggcaaa	caaaccacccg	ctggtagcgg	tggttttttt	gtttgcaagc	5760
agcagattac	gcgcagaaaa	aaaggatctc	aagaagatcc	tttgatcttt	tctacgggg	5820
ctgacgctca	gtggAACGAA	aactcacgtt	aagggatttt	ggtcatgaga	ttatcaaaaa	5880
ggatcttcac	ctagatcctt	ttaaattaaa	aatgaagttt	taaatcaatc	taaagtatat	5940
atgagtaaac	ttggcttgac	agttaccaat	gcttaatcag	tgaggcacct	atctcagcga	6000
tctgtctatt	tcgttcatcc	atagttgcct	gactccccgt	cgtgtagata	actacgatac	6060
gggagggctt	accatctggc	cccagtgtg	caatgatacc	gcgagaccca	cgctcaccgg	6120
ctccagattt	atcagcaata	aaccagccag	ccggaagggc	cgagcgcaga	agtggtcctg	6180
caactttatc	cgcctccatc	cagtctatta	attgttgccg	ggaagctaga	gtaagttagtt	6240
cggccagttaa	tagttgcgc	aacgttggtg	ccattgctac	aggcatcgtg	gtgtcacgct	6300
cgtcggttgg	tatggcttca	ttcagctccg	gttcccaacg	atcaaggcga	gttacatgat	6360
cccccatgtt	gtgcaaaaaaa	gcggtagct	ccttcggtcc	tccgatcggt	gtcagaagta	6420
agttggccgc	agtgttatca	ctcatggta	tggcagcact	gcataattct	cttactgtca	6480
tgccatccgt	aagatgctt	tctgtgactg	gtgagtagtc	aaccaagtca	ttctgagaat	6540
agtgtatgcg	gcgaccgagt	tgctttgcc	cggcgtcaat	acgggataat	accgcgccac	6600
atagcagaac	tttaaaagtg	ctcatcattg	gaaaacgttc	ttcggggcga	aaactctcaa	6660
ggatcttacc	gctgttgaga	tccagttcga	tgtaacccac	tcgtgcaccc	aactgatctt	6720
cagcatctt	tacttcacc	agcgttctg	ggtgagcaaa	aacaggaagg	caaaatgccc	6780
caaaaaaggg	aataagggcg	acacggaaat	gttgaatact	catactctc	ctttttcaat	6840
attattgaag	catttatcag	ggttattgtc	tcatgagcgg	atacatattt	gaatgtattt	6900
agaaaaataa	acaaataggg	gttccgcgca	catttccccg	aaaagtgcac	cctgacgac	6959

<210> 4
<211> 5302
<212> DNA
<213> Artificial

<220>
<223> pCDNA6/Biotag/D-TOPO

<400> 4
gacggatcg gagatctccc gatcccstat ggtcgactct cagtacaatc tgctctgatg 60
ccgcatagtt aagccagttat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120
cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180
ttagggttag gcgtttgctg ctgcttcgctg atgtacgggc cagatatacg cgttgacatt 240
gattattgac tagttattaa tagtaatcaa ttacgggttc attagttcat agcccatata 300
tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaaacgacc 360
cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420
attgacgtca atgggtggac tatttacggt aaactgccc cttggcagta catcaagtgt 480
atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540
atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca 600
tcgctattac catggtgatg cggtttggc agtacatcaa tgggcgtgga tagcggtttg 660
actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttgc ttttggcacc 720
aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatggcg 780
gtaggcgtgt acgggtggag gtctatataa gcagagctct ctggctact agagaaccca 840
ctgcttactg gcttatcgaa attaatacga ctcactatag ggagacccaa gctggcttagc 900
gtttaaactt aagcttacca tggcgcggg caccccggtg accgccccgc tggcgggcac 960
tatctggaag gtgctggcca gcgaaggcca gacggtgccg gcaggcgagg tgctgctgat 1020
tctggaagcc atgaagatgg aaaccgaaat ccgcgcgcgc caggccggga ccgtgcgcgg 1080
tatcgccgtg aaagccggcg acgcgggtggc ggtcggcgac accctgatga ccctggcg 1140
ctctggatcc gatctgtacg acgatgacga taaggtacct aggatccagt gtgggtggat 1200
tgatcccttc accaaggcg tcgagtctag agggcccggtt taaacccgct gatcagcctc 1260
gactgtgcct tctagttgcc agccatctgt tggttgcctt tccccctgtgc cttccttgac 1320
cctggaaggt gccactccca ctgtccttc ctaataaaat gaggaaatttgc catcgcat 1380
tctgagtagg tgcattcta ttctgggggg tgggggtgggg caggacagca agggggaggg 1440
ttgggaagac aatagcagggc atgctggggta tgccgggtggc tctatggctt ctgaggcg 1500
aagaaccagc tggggctcta ggggtatcc ccacgcgcgc tgcgtggcg cattaagcgc 1560
ggcgggtgtg gtgggtacgc gcagcgtgac cgctacactt gccagcgccc tagcgcccc 1620
tccttcgct ttctccctt ccttcctcgcc cacgttcgccc ggcttcccc gtcaagctct 1680
aaatcggggc atccctttag ggttccgatt tagtgcctta cggcacctcg accccaaaaaa 1740
acttgattag ggtgatggtt cacgtgtgg gccatgcgc tgcgtggcg ttttcgccc 1800
tttgacgttg gagtccacgt tcttaatag tggactcttg ttccaaactg gaacaacact 1860

caaccctatc tcggcttatt ctttgattt ataaggatt ttgggattt cggcctattt	1920
gttaaaaaat gagctgattt aacaaaaatt taacgcaat taattctgtg gaatgtgtt	1980
cagttagggt gtggaaagtc cccaggctcc ccaggcaggc agaagtatgc aaagcatgca	2040
tctcaattag tcagcaacca ggtgtggaaa gtccccaggc tccccagcag gcagaagtt	2100
gcaaagcatg catctcaatt agtcagcaac catagtccc cccctaactc cgcccatccc	2160
gcccctaact ccgcccagtt ccgcccattc tccgccccat ggctgactaa tttttttat	2220
ttatgcagag gccgaggccg cctctgcctc tgagctattc cagaagtagt gaggaggctt	2280
ttttggaggc ctaggctttt gcaaaaagct cccggagct tgtatatcca ttttcggatc	2340
tgatcagcac gtgttgcacaa ttaatcatcg gcatagtata tcggcatagt ataatacgc	2400
aaggtgagga actaaaccat ggccaagcct ttgtctcaag aagaatccac cctcattgaa	2460
agagcaacgg ctacaatcaa cagcatcccc atctctgaag actacagcgt cgccagcgc	2520
gctctctcta gcgacggccg catcttcaact ggtgtcaatg tatatcattt tactggggga	2580
ccttgtcag aactcgtggt gctggcact gctgctgctg cggcagctgg caacctgact	2640
tgtatcgtcg cgatcgaaa tgagaacagg ggcatttga gcccctgcgg acgggtgccga	2700
caggtgcttc tcgatctgca tcctggatc aaagccatag tgaaggacag tgatggacag	2760
ccgacggcag ttgggattcg tgaattgctg ccctctggtt atgtgtggga gggctaagca	2820
cttcgtggcc gaggagcagg actgacacgt gctacgagat ttcgattcca ccggccgcctt	2880
ctatgaaagg ttgggcttcg gaatcgttt ccgggacgcc ggctggatga tcctccagcg	2940
cggggatctc atgctggagt tcttcgccta ccccaacttg tttattgcag cttataatgg	3000
ttacaaataa agcaatagca tcacaaattt cacaataaa gcatttttt cactgcattc	3060
tagttgtgggt ttgtccaaac tcatcaatgt atcttatcat gtctgtatac cgtcgacctc	3120
tagctagagc ttggcgtaat catggtcata gctgtttcct gtgtgaaatt gttatccgct	3180
cacaattcca cacaacatac gagccggaag cataaagtgt aaagcctgg gtgcctaatg	3240
agtgagctaa ctcacattaa ttgcgttgcg ctcactgccc gctttccagt cgggaaacct	3300
gtcgtgccag ctgcattaaat gaatcgccca acgcgcgggg agaggcggtt tgcgtattgg	3360
gcgccttc gcttcctcgc tcactgactc gctgcgcctcg gtcgttcggc tgcggcgagc	3420
ggtatcagct cactcaaagg cggttaatacg gttatccaca gaatcagggg ataacgcagg	3480
aaagaacatg tgagcaaaag gccagaaaa ggccaggaac cgtaaaaagg ccgcgttgc	3540
ggcgttttc cataggctcc gccccctga cgagcatcac aaaaatcgac gctcaagtca	3600
gaggtggcga aacccgacag gactataaag ataccaggcg tttcccccgt gaagctccct	3660
cgtgcgcctc cctgttccga ccctgcccgt taccggatac ctgtccgcct ttctcccttc	3720

gggaagcgtg	g	cgctttctc	aatgctcacg	ctgttaggtat	ctcagttcgg	tgttaggtcgt	3780
tcgctccaag	ct	gggctgtg	tgcacgaacc	ccccgttcag	cccgaccgct	gcgccttata	3840
cggtaactat	cgt	tttgagt	ccaacccgt	aagacacgac	ttatgccac	tggcagcagc	3900
cactggtaac	agg	atttagca	gagcgaggta	tgtaggcggt	gctacagagt	tcttgaagtg	3960
gtggcctaac	tac	ggctaca	ctagaaggac	agtatttggt	atctgcgctc	tgctgaagcc	4020
agttaccttc	ggaaa	aaagag	ttggtagctc	ttgatccggc	aaacaaaacca	ccgctggtag	4080
cggtggtttt	ttt	gtttgca	agcagcagat	tacgcgcaga	aaaaaaggat	ctcaagaaga	4140
tcctttgatc	ttt	tctacgg	ggtctgacgc	tcagtggAAC	aaaaactcac	gttaagggat	4200
tttggcatg	agattatcaa	aaaggatctt	cacctagatc	ctttaaatt	aaaaatgaag		4260
ttttaatca	atcta	aaagta	tatatgagta	aacttggtct	gacagttacc	aatgcttaat	4320
cagtgaggca	cctatctcag	cgatctgtct	atttcgttca	tccatagttg	cctgactccc		4380
cgtcgtgtag	ataactacga	tacgggaggg	cttaccatct	ggccccagtg	ctgcaatgat		4440
accgcgagac	ccacgctcac	cggtccaga	tttatcagca	ataaaccagc	cagccggaag		4500
ggccgagcgc	agaagtggtc	ctgcaacttt	atccgcctcc	atccagtcta	ttaattgttg		4560
ccgggaagct	agagtaagta	gttcgcccagt	taatagttt	cgcaacgtt	ttgccattgc		4620
tacaggcattc	gtgggtgtcac	gctcgtcg	tttatggct	tcattcagct	ccggttccca		4680
acgatcaagg	cgagttacat	gatccccat	gttgtgcaaa	aaagcggtt	gctccttcgg		4740
tcctccgatc	gttgcagaa	gtaagttggc	cgcagtgtt	tcactcatgg	ttatggcagc		4800
actgcataat	tcttttactg	tcatgccatc	cgtaagatgc	ttttctgtga	ctggtgagta		4860
ctcaaccaag	tcattctgag	aatagtgtat	gcggcgaccg	agttgctt	gcccggcgtc		4920
aatacggat	aataccgcgc	cacatagcag	aactttaaaa	gtgctcatca	ttggaaaaacg		4980
ttcttcgggg	cgaaaactct	caaggatctt	accgctgtt	agatccagtt	cgatgttaacc		5040
cactcgtgca	cccaactgat	cttcagcatc	tttactt	accagcg	tttctgggtgagc		5100
aaaaacagga	aggcaaaatg	ccgcaaaaaaa	gggataagg	gacacacgga	aatgttgaat		5160
actcataactc	ttcccttttc	aatattattt	aagcattt	cagggttatt	gtctcatgag		5220
cgatatacata	tttgaatgt	tttagaaaaa	taaacaata	ggggttccgc	gcacatttcc		5280
ccgaaaagtg	ccac	ctgacg	tc				5302

<210> 5
<211> 5375
<212> DNA
<213> Artificial

<220>
<223> pMT/Biotag-DEST

<400> 5
tcgcgcgttt cggtgatgac ggtgaaaacc tctgacacat gcagctcccg gagacggta 60
cagcttgtct gtaagcggat gccgggagca gacaagcccg tcagggcgcg tcagcgggtg 120
ttggcgggtg tcggggctgg cttactatg cggcatcaga gcagattgta ctgagagtgc 180
accatatgcg gtgtgaaata ccgcacagat gcgttaaggag aaaataccgc atcaggcgcc 240
atccgcatt caggctgcgc aactgttggg aagggcgatc ggtgcgggcc tcttcgctat 300
tacgccagct ggcgaaaaggg ggatgtgctg caaggcgatt aagttggta acgccagggt 360
tttcccagtc acgacgttgt aaaacgacgg ccagtgcag tgaattaatt cgttgcagga 420
caggatgtgg tgcccgatgt gactagctct ttgctgcagg ccgtccatc ctctggttcc 480
gataagagac ccagaactcc ggccccccac cgcccaccgc caccggata catatgtgg 540
acgcaagtaa gagtgcctgc gcatccccca tgtgcggcac caagagttt gcatccata 600
caagtccccca aagtggagaa ccgaaccaat tcttcgcggg cagaacaaaa gcttctgcac 660
acgtctccac tcgaatttgg agccggccgg cgtgtgcaaa agaggtgaat cgaacgaaag 720
acccgtgtgt aaagccgcgt ttccaaaatg tataaaaccg agagcatctg gccaatgtgc 780
atcagttgtg gtcagcagca aaatcaagtg aatcatctca gtgcaactaa aggggggatc 840
tagcgtaactt acctaagctt accatggcgcc cgccaccccc ggtgaccgccc ccgctggcg 900
gcactatctg gaaggtgctg gccagcgaag gccagacggt ggccgcaggc gaggtgctgc 960
tgattctgga agccatgaag atggaaaccg aaatccgcgc cgccgcaggcc gggaccgtgc 1020
gcggtatcgc ggtgaaagcc ggcgacgcgg tggcggtcgg cgacaccctg atgaccctgg 1080
cgggctctgg atccgatctg tacgacgatg acgataaggt acatcaaaca agtttgcata 1140
aaaaagctga acgagaaacg taaaatgata taaatatcaa tatattaaat tagattttgc 1200
ataaaaaaca gactacataa tactgtaaaa cacaacatcc ccaactacta tggcggccgc 1260
attaggcacc ccaggctta cacttatgc ttccggctcg tataatgtgt ggattttgag 1320
ttaggatccg gcgagatccc caggagctaa ggaagctaaa atggagaaaa aaatcactgg 1380
atataccacc gttgatataat cccaatggca tcgtaaagaa cattttgagg catttcagtc 1440
agttgctcaa tgtacctata accagaccgt tcagctggat attacggcct ttttaagac 1500
cgtaaagaaa aataagcaca agtttatcc ggccttatt cacattctg cccgcctgat 1560
gaatgctcat ccggaaattcc gtatggcaat gaaagacggt gagctggta tatggatag 1620
tgttcacccct tgttacaccg tttccatga gcaaactgaa acgtttcat cgctctggag 1680
tgaataaccac gacgatttcc ggcagttct acacatataat tcgcaagatg tggcgtgtta 1740
cggtgaaaac ctggcctatt tccctaaagg gtttattgag aatatgttt tcgtctcagc 1800
caatccctgg gtgagttca ccagtttga tttaaacgtg gccaatatgg acaacttctt 1860

cgcccccggtt	ttcaccatgg	gcaaataatta	tacgcaaggc	gacaagggtgc	tgatgccgct	1920
ggcgattcag	gttcatcatg	ccgtctgtga	tggcttccat	gtcggcagaa	tgcttaatga	1980
attacaacag	tactgcgatg	agtggcaggg	cggggcgtaa	acgcgtggat	ccggcttact	2040
aaaagccaga	taacagtatg	cgtatggcg	cgctcgcgaa	ccgggttata	cccgaaagtat	2100
gtcaaaaaga	ggtgtgctat	gaagcagcgt	attacagtga	cagttgacag	cgacagctat	2160
cagttgctca	aggcatatat	gatgtcaata	tctccggtct	ggtaagcaca	accatgcaga	2220
atgaagcccc	tcgtctgcgt	gccgaacgct	ggaaagcgga	aaatcaggaa	gggatggctg	2280
aggtcgcccc	gtttattgaa	atgaacggct	cttttgcgt	cgagaacagg	gactggtgaa	2340
atgcagttt	aggtttacac	ctataaaaga	gagagccgtt	atcgctgttt	tgtggatgt	2400
cagagtata	ttattgacac	gcccgccgca	cggatggtga	tccccctggc	cagtgcacgt	2460
ctgctgtcag	ataaaagtctc	ccgtgaactt	tacccgggtgg	tgcataatcg	ggatgaaagc	2520
tggcgcatga	tgaccaccga	tatggccagt	gtgccggct	ccgttatcg	ggaagaagtg	2580
gctgatctca	gccaccgcga	aaatgacatc	aaaaacgc	ttaacctgtat	gttctgggaa	2640
atataaatgt	caggctccgt	tatacacacgc	cagtctgcag	gtcgaccata	gtgactggat	2700
atgttgtgtt	ttacagtatt	atgtagtcgt	tttttatgc	aaaatcta	ttaatataatt	2760
gatatttata	tcattttacg	tttctcggtt	agctttcttg	tacaaagtgg	tgataattaa	2820
ttaagatcta	gagggcccgt	ttaaaccgc	tgatcagcct	cgactgtgcc	ttctaagatc	2880
cagacatgt	aagatacatt	gatgagttt	gacaaaccac	aactagaatg	cagtaaaaaa	2940
aatgctttat	ttgtgaaatt	tgtgatgcta	ttgctttatt	tgtaccatt	ataagctgca	3000
ataaaacaagt	taacaacaac	aattgcattc	attttatgtt	tcaggttcag	ggggaggtgt	3060
gggaggtttt	ttaaagcaag	taaaacctct	acaaatgtgg	tatggctgat	tatgatcagt	3120
cgacctgcag	gcatgcaagc	ttggcgtaat	catggtcata	gctgttcct	gtgtgaaatt	3180
gttatccgct	cacaattcca	cacaacatac	gagccggaa	cataaagtgt	aaagcctggg	3240
gtgcctaatt	agtgagctaa	ctcacattaa	ttgcgttgc	ctcaactgccc	gctttccagt	3300
cggaaacct	gtcgtgccag	ctgcattaa	gaatcgcca	acgcgcgggg	agaggcgggt	3360
tgcgtattgg	gctgtttcc	gcttcctcg	tcactgactc	gctgcgtcg	gtcggttgc	3420
tgcggcgagc	ggtatcagct	cactcaaagg	cggtaatacg	gttatccaca	gaatcagggg	3480
ataacgcagg	aaagaacatg	tgagcaaaag	gccagcaaaa	ggccaggaac	cgtaaaaagg	3540
ccgcgttgct	ggcgttttc	cataggctcc	gccccctga	cgagcatcac	aaaaatcgac	3600
gctcaagtca	gaggtggcga	aacccgacag	gactataaag	ataccaggcg	tttccccctg	3660
gaagctccct	cgtgcgtct	cctgtccga	ccctgcccgt	taccggatac	ctgtccgcct	3720

ttctcccttc	gggaagcgtg	gchgcttctc	atagctcacg	ctgttaggtat	ctcagttcgg	3780
tgttaggtcgt	tcgctccaag	ctgggctgtg	tgcacgaacc	ccccgttcag	cccgaccgct	3840
gcgccttatac	cggtaactat	cgtcttgagt	ccaacccgg	aagacacgac	ttatcgccac	3900
tggcagcagc	cactggtaac	aggattagca	gagcgaggta	tgttaggcgg	gctacagagt	3960
tcttgaagtg	gtggcctaac	tacggctaca	ctagaaggac	agtatttgg	atctgcgctc	4020
tgctgaagcc	agttaccttc	ggaaaaagag	ttggtagctc	ttgatccggc	aaacaaacca	4080
ccgctggtag	cggtggtttt	tttggttgca	agcagcagat	tacgcgcaga	aaaaaaggat	4140
ctcaagaaga	tcctttgatc	tttctacgg	ggtctgacgc	tcagtggAAC	gaaaactcac	4200
gttaaggat	tttggtcatg	agattatcaa	aaaggatctt	cacctagatc	ctttaaatt	4260
aaaaatgaag	ttttaaatca	atctaaagta	tatatgagta	aacttggtct	gacagttacc	4320
aatgcttaat	cagtgaggca	cctatctcag	cgatctgtct	atttcgttca	tccatagtt	4380
cctgactccc	cgtcgtgtag	ataactacga	tacgggaggg	cttaccatct	ggccccagtg	4440
ctgcaatgat	accgcgagac	ccacgctcac	cggtccaga	tttacgca	ataaaccagc	4500
cagccggaag	ggccgagcgc	agaagtggc	ctgcaacttt	atccgcctcc	atccagtcta	4560
ttaattgtt	ccgggaagct	agagtaagta	gttcgcccagt	taatagttt	cgcaacgtt	4620
ttgccattgc	tacaggcatc	gtgggtcac	gctcgtcg	tggatggct	tcattcagct	4680
ccggttccca	acgatcaagg	cgagttacat	gatccccat	gttgc	aaaaaa	4740
gctccttcgg	tcctccgatc	gttgcagaa	gtaagttggc	cgcagtgtt	tcactcatgg	4800
ttatggcagc	actgcataat	tctcttactg	tcatgccatc	cgtaagatgc	tttctgtga	4860
ctgggtgagta	ctcaaccaag	tcattctgag	aatagtgtat	gcggcgaccg	agttgcttt	4920
ccccggcgtc	aatacggat	aataccgcgc	cacatagcag	aactttaaa	gtgctcatca	4980
ttggaaaacg	ttcttcgggg	cgaaaaactct	caaggatctt	accgctgtt	agatccagg	5040
cgtatgtacc	cactcgtgca	cccaactgat	cttcagcatc	tttactt	accagcg	5100
ctgggtgagc	aaaaacagga	aggcaaaatg	ccgcaaaaaa	gggataagg	gacacacgga	5160
aatgttgaat	actcataactc	ttccttttc	aatattattt	aagcattt	cagggttatt	5220
gtctcatgag	cggatacata	tttgaatgta	tttagaaaaa	taaacaata	gggttccgc	5280
gcacatttcc	ccgaaaagtg	ccacctgacg	tctaagaaac	cattattatc	atgacattaa	5340
cctataaaaa	taggcgtatc	acgaggccct	ttcgt			5375

<210> 6

<211> 72

<212> PRT

<213> Klebsiella pneumoniae

<400> 6

Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp Lys
1 5 10 15

Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu Leu
20 25 30

Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln Ala
35 40 45

Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala Val
50 55 60

Gly Asp Thr Leu Met Thr Leu Ala
65 70

<210> 7
<211> 115
<212> PRT
<213> Mus musculus

<400> 7

Lys Ala Leu Ala Val Ser Asp Leu Asn Arg Ala Gly Gln Arg Gln Val
1 5 10 15

Phe Phe Glu Leu Asn Gly Gln Leu Arg Ser Ile Leu Val Lys Asp Thr
20 25 30

Gln Ala Met Lys Glu Met His Phe His Pro Lys Ala Leu Lys Asp Val
35 40 45

Lys Gly Gln Ile Gly Ala Pro Met Pro Gly Lys Val Ile Asp Ile Lys
50 55 60

Val Ala Ala Gly Asp Lys Val Ala Lys Gly Gln Pro Leu Cys Val Leu
65 70 75 80

Ser Ala Met Lys Met Glu Thr Val Val Thr Ser Pro Met Glu Gly Thr
85 90 95

Ile Arg Lys Val His Val Thr Lys Asp Met Thr Leu Glu Gly Asp Asp
100 105 110

Leu Ile Leu
115

<210> 8

<211> 123

<212> PRT

<213> Propionibacterium shermanii

<400> 8

Met Lys Leu Lys Val Thr Val Asn Gly Thr Ala Tyr Asp Val Asp Val
1 5 10 15

Asp Val Asp Lys Ser His Glu Asn Pro Met Gly Thr Ile Leu Phe Gly
20 25 30

Gly Gly Thr Gly Gly Ala Pro Ala Pro Arg Ala Ala Gly Gly Ala Gly
35 40 45

Ala Gly Lys Ala Gly Glu Gly Glu Ile Pro Ala Pro Leu Ala Gly Thr
50 55 60

Val Ser Lys Ile Leu Val Lys Glu Gly Asp Thr Val Lys Ala Gly Gln
65 70 75 80

Thr Val Leu Val Leu Glu Ala Met Lys Met Glu Thr Glu Ile Asn Ala
85 90 95

Pro Thr Asp Gly Lys Val Glu Lys Val Leu Val Lys Glu Arg Asp Ala
100 105 110

Val Gln Gly Gly Gln Gly Leu Ile Lys Ile Gly
115 120

<210> 9

<211> 122

<212> PRT

<213> Homo sapiens

<400> 9

Gly Ser Cys Val Glu Val Asp Val His Arg Leu Ser Asp Gly Gly Leu
1 5 10 15

Leu Leu Ser Tyr Asp Gly Ser Ser Tyr Thr Thr Tyr Met Lys Glu Glu
20 25 30

Val Asp Arg Tyr Arg Ile Thr Ile Gly Asn Lys Thr Cys Val Phe Glu
35 40 45

Lys Glu Asn Asp Pro Ser Val Met Arg Ser Pro Ser Ala Gly Lys Leu
50 55 60

Ile Gln Tyr Ile Val Glu Asp Gly Gly His Val Phe Ala Gly Gln Cys

65

70

75

80

Tyr Ala Glu Ile Glu Val Met Lys Met Val Met Thr Leu Thr Ala Val
85 90 95

Glu Ser Gly Cys Ile His Tyr Val Lys Arg Pro Gly Ala Ala Leu Asp
100 105 110

Pro Gly Cys Val Leu Ala Lys Met Gln Leu
115 120

<210> 10
<211> 156
<212> PRT
<213> Escherichia coli

<400> 10

Met Asp Ile Arg Lys Ile Lys Lys Leu Ile Glu Leu Val Glu Glu Ser
1 5 10 15

Gly Ile Ser Glu Leu Glu Ile Ser Glu Gly Glu Glu Ser Val Arg Ile
20 25 30

Ser Arg Ala Ala Pro Ala Ala Ser Phe Pro Val Met Gln Gln Ala Tyr
35 40 45

Ala Ala Pro Met Met Gln Gln Pro Ala Gln Ser Asn Ala Ala Ala Pro
50 55 60

Ala Thr Val Pro Ser Met Glu Ala Pro Ala Ala Glu Ile Ser Gly
65 70 75 80

His Ile Val Arg Ser Pro Met Val Gly Thr Phe Tyr Arg Thr Pro Ser
85 90 95

Pro Asp Ala Lys Ala Phe Ile Glu Val Gly Gln Lys Val Asn Val Gly
100 105 110

Asp Thr Leu Cys Ile Val Glu Ala Met Lys Met Met Asn Gln Ile Glu
115 120 125

Ala Asp Lys Ser Gly Thr Val Lys Ala Ile Leu Val Glu Ser Gly Gln
130 135 140

Pro Val Glu Phe Asp Glu Pro Leu Val Val Ile Glu
145 150 155

<210> 11
<211> 216
<212> DNA
<213> Klebsiella pneumoniae

<400> 11
ggcgccggca ccccggtgac cgccccgctg gcgggcacta tctggaaggt gctggccagc 60
gaaggccaga cggtgccgc aggcgaggtg ctgctgattc tggaaagccat gaagatggaa 120
accgaaatcc gcgcccgcga ggccgggacc gtgcgcggta tcgcggtgaa agccggcgcac 180
gcggtggcgg tcggcgacac cctgatgacc ctggcg 216

<210> 12
<211> 345
<212> DNA
<213> Mus musculus

<400> 12
aaagccctgg ctgtaagcga cctgaaccgt gctggccaga ggcaggtgtt ctttgaactc 60
aatgggcagc ttcatccat tctggtaaaa gacacccagg ccatgaagga gatgcacttc 120
catcccaagg ctttgaagga tgtgaagggc caaattgggg ccccgatgcc tggaaaggtc 180
atagacatca aggtggcagc aggggacaag gtggctaagg gccagccct ctgtgtgctc 240
agcgccatga agatggagac tgtggtgact tcgcccattgg agggcactat ccgaaagggtt 300
catgttacca aggacatgac tctggaaggc gacgacactca tcctta 345

<210> 13
<211> 369
<212> DNA
<213> Propionibacterium shermanii

<400> 13
atgaaactga aggttaacagt caacggcact gcgtatgacg ttgacgttga cgtcgacaag 60
tcacacgaaa acccgatggg caccatcctg ttccggccgcg gcaccggcgg cgccgcggca 120
ccgcgcgcag caggtggcgc aggcgcccgt aaggccggag agggcgagat tcccgctccg 180
ctggccggca ccgtctccaa gatcctcgta aaggagggtg acacggtaa ggctggtcag 240
accgtgctcg ttctcgaggc catgaagatg gagaccgaga tcaacgctcc caccgacggc 300
aaggtcgaga aggtccttgt caaggagcgt gacgcccgtgc agggcggtca gggtctcatc 360
aagatcggc 369

<210> 14
<211> 366
<212> DNA
<213> Homo sapiens

<400> 14
ggctcatgtg tagaagttaga tgtacatcggtt ctgagtgacg gtggactgtt cttgtcctat 60

gatggcagca gttacaccac gtatatgaag gaggaaatgg acagatatcg catcacaatt 120
ggcaataaaa cctgtgtt tgagaaggaa aatgaccat cggtgatgcg ctcacccct 180
gctggaaatgt taatccagta cattgttagaa gatggaggc atgtgtttgc cggccagtgc 240
tatgcagaga ttgaggtaat gaagatggta atgactttga cagctgtgga gtctggctgt 300
atccattacg tcaagcgtcc tggagcagct cttgaccctg gctgttact cgccaaaatg 360
caactg 366

<210> 15
<211> 468
<212> DNA
<213> Escherichia coli

<400> 15
atggatattc gtaagattaa aaaactgatc gagctggttg aagaatcagg catctccgaa 60
ctggaaattt ctgaaggcga agagtcagta cgcattagcc gtgcagctcc tgccgcaagt 120
ttccctgtga tgcaacaagc ttacgctgca ccaatgatgc agcagccagc tcaatctaac 180
gcagccgctc cggcgaccgt tccttccatg gaagcgccag cagcagcggaa aatcagtgg 240
cacatcgtaac gttcccgat ggttggact ttctaccgca ccccaagccc ggacgcaaaa 300
gcgttcatcg aagtgggtca gaaagtcaac gtgggcgata ccctgtgcat cggtgaagcc 360
atgaaaatga tgaaccagat cgaagcggac aaatccggta ccgtgaaagc aattctggc 420
gaaagtggac aaccggtaga atttgacgag ccgtggctcg tcattcgag 468

<210> 16
<211> 8
<212> PRT
<213> Artificial

<220>
<223> FLAG epitope

<400> 16

Asp Tyr Lys Asp Asp Asp Asp Lys
1 5

<210> 17
<211> 8
<212> PRT
<213> Artificial

<220>
<223> FLAG epitope

<400> 17

Asp Tyr Lys Asp Glu Asp Asp Lys
1 5

<210> 18
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Strep epitope

<400> 18

Ala Trp Arg His Pro Gln Phe Gly Gly
1 5

<210> 19
<211> 11
<212> PRT
<213> Artificial

<220>
<223> VSV-G epitope

<400> 19

Tyr Thr Asp Ile Glu Met Asn Arg Leu Gly Lys
1 5 10

<210> 20
<211> 6
<212> PRT
<213> Artificial

<220>
<223> poly-His epitope

<400> 20

His His His His His His
1 5

<210> 21
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Influenza epitope

<400> 21

Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Ile Glu Gly Arg
1 5 10

<210> 22
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Human c-myc epitope

<400> 22

Glu Gln Lys Leu Leu Ser Glu Glu Asp Leu Asn
1 5 10

<210> 23
<211> 3
<212> PRT
<213> Artificial

<220>
<223> tripeptide epitope

<400> 23

Glu Glu Phe
1

<210> 24
<211> 5
<212> PRT
<213> Artificial

<220>
<223> enterokinase (EK) recognition site

<400> 24

Asp Asp Asp Asp Lys
1 5

<210> 25
<211> 467
<212> DNA
<213> Artificial

<220>
<223> pET104-DEST vector

<220>
<221> CDS
<222> (177) .. (464)

<220>
<221> misc_feature
<222> (466) .. (467)
<223> n is a, c, g, or t

<400> 25

ataggcgcca gcaaccgcac ctgtggcgcc ggtgatgccg gccacgatgc gtccggcgta 60

gaggatcgag atctcgatcc cgcgaaattn atacgactca ctatagggta attgtgagcg 120

gataacaatt cccctctaga aataattttg tttaacttta agaaggagat atacat atg 179
Met

1

ggc gcc ggc acc ccg gtg acc gcc ccg ctg gcg ggc act atc tgg aag 227
Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp Lys
5 10 15

gtg ctg gcc agc gaa ggc cag acg gtg gcc gca ggc gag gtg ctg ctg 275
Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu Leu
20 25 30

att ctg gaa gcc atg aag atg gaa acc gaa atc cgc gcc gcg cag gcc 323
Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln Ala
35 40 45

ggg acc gtg cgc ggt atc gcg gtg aaa gcc ggc gac gcg gtg gcg gtc 371
Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala Val
50 55 60 65

ggc gac acc ctg atg acc ctg gcg ggc tct gga tcc gat ctg tac gac 419
Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr Asp
70 75 80

gat gac gat aag gga att atc aca agt ttg tac aaa aaa gca ggc tnn 467
Asp Asp Asp Lys Gly Ile Ile Thr Ser Leu Tyr Lys Lys Ala Gly
85 90 95

<210> 26
<211> 96
<212> PRT
<213> Artificial

<220>
<223> pET104-DEST vector

<400> 26

Met Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp
1 5 10 15

Lys Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu
20 25 30

Leu Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln
35 40 45

Ala Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala
50 55 60

Val Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr
65 70 75 80

Asp Asp Asp Asp Lys Gly Ile Ile Thr Ser Leu Tyr Lys Lys Ala Gly
85 90 95

<210> 27
<211> 449
<212> DNA
<213> Artificial

<220>
<223> pET104/D-TOPO vector

<220>
<221> CDS
<222> (177) .. (449)

<400> 27
ataggcgcca gcaaccgcac ctgtggcgcc ggtgatgccc gccacgatgc gtccggcgta 60
gaggatcgag atctcgatcc cgcgaaatata atacgactca ctatagggga attgtgagcg 120
gataacaatt cccctctaga aataattttg tttaacttta agaaggagat atacat atg 179
Met
1

ggc gcc ggc acc ccg gtg acc gcc ccg ctg gcg ggc act atc tgg aag 227
Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp Lys
5 10 15

gtg ctg gcc agc gaa ggc cag acg gtg gcc gca ggc gag gtg ctg ctg 275
Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu Leu
20 25 30

att ctg gaa gcc atg aag atg gaa acc gaa atc cgc gcc gcg cag gcc 323
Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln Ala
35 40 45

ggg acc gtg cgc ggt atc gcg gtg aaa gcc ggc gac gcg gtg gcg gtc 371
Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala Val
50 55 60 65

ggc gac acc ctg atg acc ctg gcg ggc tct gga tcc gat ctg tac gac 419
Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr Asp
70 75 80

gat gac gat aag gga att gat ccc ttc acc 449
Asp Asp Asp Lys Gly Ile Asp Pro Phe Thr
85 90

<210> 28
<211> 91
<212> PRT
<213> Artificial

<220>
<223> pET104/D-TOPO vector

<400> 28
Met Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp
1 5 10 15

Lys Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu

20

25

30

Leu Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln
35 40 45

Ala Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala
50 55 60

Val Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr
65 70 75 80

Asp Asp Asp Asp Lys Gly Ile Asp Pro Phe Thr
85 90

<210> 29
<211> 450
<212> DNA
<213> Artificial

<220>
<223> pcDNA/Biotag-DEST vector

<220>
<221> CDS
<222> (160) .. (447)

<220>
<221> misc_feature
<222> (449) .. (450)
<223> n is a, c, g, or t

<400> 29
cccattgacg caaatggcg gtaggcgtgt acgggtggag gtcttatataa gcagagctct 60
ctggctaact agagaaccca ctgcttactg gcttatcgaa attaatacga ctcactata 120
ggagacccaa gctggctagc gtttaaactt aagcttacc atg ggc gcc ggc acc 174
Met Gly Ala Gly Thr
1 5

ccg gtg acc gcc ccg ctg gcg ggc act atc tgg aag gtg ctg gcc agc 222
Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp Lys Val Leu Ala Ser
10 15 20

gaa ggc cag acg gtg gcc gca gag gtg ctg ctg att ctg gaa gcc 270
Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu Leu Ile Leu Glu Ala
25 30 35

atg aag atg gaa acc gaa atc cgc gcc gcg cag gcc ggg acc gtg cgc 318
Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln Ala Gly Thr Val Arg
40 45 50

ggt atc gcg gtg aaa gcc ggc gac gcg gtg gcg gtc ggc gac acc ctg 366
Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala Gly Asp Thr Leu

55 60 65 414
atg acc ctg gcg ggc tct gga tcc gat ctg tac gac gat gac gat aag
Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr Asp Asp Asp Asp Lys
70 75 80 85 450
gta cat caa aca agt ttg tac aaa aaa gca ggc tnn
Val His Gln Thr Ser Leu Tyr Lys Lys Ala Gly
90 95

<210> 30
<211> 96
<212> PRT
<213> Artificial

<220>
<223> pcDNA/Biotag-DEST vector

<400> 30

Met Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp
1 5 10 15

Lys Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu
20 25 30

Leu Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln
35 40 45

Ala Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala
50 55 60

Val Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr
65 70 75 80

Asp Asp Asp Asp Lys Val His Gln Thr Ser Leu Tyr Lys Lys Ala Gly
85 90 95

<210> 31
<211> 453
<212> DNA
<213> Artificial

<220>
<223> pcDNA6/Biotag/D-TOP0

<220>
<221> CDS
<222> (160) .. (453)

<400> 31
cccattgacg caaatggcg gtaggcgtgt acgggtggag gtcttatataa gcagagctct 60
ctggcttaact agagaaccca ctgcttactg gcttatcgaa attaatacga ctcactatacg 120

ggagacccaa gctggctagc gtttaaactt aagcttacc atg ggc gcc ggc acc Met Gly Ala Gly Thr 1 5	174
ccg gtg acc gcc ccg ctg gcg ggc act atc tgg aag gtg ctg gcc agc Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp Lys Val Leu Ala Ser 10 15 20	222
gaa ggc cag acg gtg gcc gca ggc gag gtg ctg ctg att ctg gaa gcc Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu Leu Ile Leu Glu Ala 25 30 35	270
atg aag atg gaa acc gaa atc cgc gcc gcg cag gcc ggg acc gtg cgc Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln Ala Gly Thr Val Arg 40 45 50	318
ggt atc gcg gtg aaa gcc ggc gac gcg gtg gcg gtc ggc gac acc ctg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala Val Gly Asp Thr Leu 55 60 65	366
atg acc ctg gcg ggc tct gga tcc gat ctg tac gac gat gac gat aag Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr Asp Asp Asp Asp Lys 70 75 80 85	414
gta cct agg atc cag tgt ggt gga att gat ccc ttc acc Val Pro Arg Ile Gln Cys Gly Ile Asp Pro Phe Thr 90 95	453
 <p><210> 32 <211> 98 <212> PRT <213> Artificial</p> <p><220> <223> pcDNA6/Biotag/D-TOP</p> <p><400> 32</p> <p>Met Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp 1 5 10 15</p> <p>Lys Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu 20 25 30</p> <p>Leu Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln 35 40 45</p> <p>Ala Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala 50 55 60</p> <p>Val Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr 65 70 75 80</p> <p>Asp Asp Asp Asp Lys Val Pro Arg Ile Gln Cys Gly Gly Ile Asp Pro 85 90 95</p>	

Phe Thr

<210> 33
<211> 744
<212> DNA
<213> Artificial

<220>
<223> pMT/Biotag-DEST vector

<220>
<221> CDS
<222> (454) .. (741)

<220>
<221> misc_feature
<222> (743) .. (744)
<223> n is a, c, g, or t

<400> 33
cggtgcagga caggatgtgg tgcccgatgt gactagctct ttgctgcagg ccgtcctatc 60
ctctgggttcc gataagagac ccagaactcc ggccccccac cgcccaaccgc caccccccata 120
catatgtggt acgcaagtaa gagtgccctgc gcatgccccca tgtgccccac caagagtttt 180
gcatccata caagtccccca aagtggagaa ccgaaccaat tcttcgcggg cagaacaaaa 240
gcttctgcac acgtctccac tcgaatttgg agccggccgg cgtgtgcaaa agaggtgaat 300
cgaacgaaag acccgtgtgt aaagccgcgt ttccaaaatg tataaaaccg agagcatctg 360
gccaatgtgc atcagttgtg gtcagcagca aaatcaagtg aatcatctca gtgcaactaa 420
aggggggatc tagcgttaa acttaagctt acc atg ggc gcc ggc acc ccg gtg 474
Met Gly Ala Gly Thr Pro Val
1 5

acc gcc ccg ctg gcg ggc act atc tgg aag gtg ctg gcc agc gaa ggc 522
Thr Ala Pro Leu Ala Gly Thr Ile Trp Lys Val Leu Ala Ser Glu Gly
10 15 20

cag acg gtg gcc gca ggc gag gtg ctg ctg att ctg gaa gcc atg aag 570
Gln Thr Val Ala Ala Gly Glu Val Leu Leu Ile Leu Glu Ala Met Lys
25 30 35

atg gaa acc gaa atc cgc gcc gcg cag gcc ggg acc gtg cgc ggt atc 618
Met Glu Thr Glu Ile Arg Ala Ala Gln Ala Gly Thr Val Arg Gly Ile
40 45 50 55

gcg gtg aaa gcc ggc gac gcg gtg gcg gtc ggc gac acc ctg atg acc 666
Ala Val Lys Ala Gly Asp Ala Val Ala Val Gly Asp Thr Leu Met Thr
60 65 70

ctg gcg ggc tct gga tcc gat ctg tac gac gat gac gat aag gta cat 714
Leu Ala Gly Ser Gly Ser Asp Leu Tyr Asp Asp Asp Lys Val His
75 80 85

caa aca agt ttg tac aaa aaa gca ggc tnn 744

Gln Thr Ser Leu Tyr Lys Lys Ala Gly
90 95

<210> 34
<211> 96
<212> PRT
<213> Artificial

<220>
<223> pMT/Biotag-DEST vector

<400> 34

Met Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp
1 5 10 15

Lys Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu
20 25 30

Leu Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln
35 40 45

Ala Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala
50 55 60

Val Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr
65 70 75 80

Asp Asp Asp Asp Lys Val His Gln Thr Ser Leu Tyr Lys Lys Ala Gly
85 90 95